UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CINCINNATI, OHIO 45268

May 6, 1993

Mr. Fred Stroud
On Scene Coordinator
U.S. EPA Region IV
345 Courtland Street NE
Atlanta, Ga. 30365

Re: Review of April 1993 SAAD Site RA/FI Phase II Report

Dear Fred:

I have reviewed the April 1993 report that was prepared by DRE Remedial Services, Inc. for the SAAD Site. I will comment on the vadose soils proposal, proposed oil recovery system, and contaminant transport pathways that were presented.

I do not agree with DRE's conclusion that removal of vadose zone soils are not recommended. Re-contamination of soils above the perched water zone is not likely. If free phase contaminants from offsite sources migrate onto the SAAD Site the movement would be along the top of the perched water table. The Tennessee industrial cleanup level for TPH in soils is 250 mg/kg. Thirty of the thirty seven soil samples taken indicated TPH levels above the 250 mg/kg cleanup level. I recommend that contaminated soils above the perched water table be removed.

DRE indicated that they intend to install a free product collection system to collect product on the perched water table. Wells are proposed to recover the product; however, the report frequently eludes to the hetrogeneity of the materials on the site. The inhomogeneity of the fill at the site would reduce recovery efficiencies. A more efficient method to collect free phase product would be to install recovery trenches. The report also states that in well number SSS-1 approximately 1.5 feet of free product was detected. This well is installed in the Bigby Cannon Limestone. No mention was made regarding the recovery of this product.

The E&E and CSX potentiometric surface maps that are presented in the report are drafted based on a few widely spaced data points, and the water level measurements for the E&E map were taken nine years prior to the CSX investigation. Water levels can vary greatly in a span of nine years; therefore, I question the certainty of the interpretated flow regimes in the Bigby Cannon Limestone for the area that includes the CSX Yard, SADD Site and the Croft Spring. A comprehensive water level measurement program should be initiated to adequately evaluate the potentiometric surface of the Bigby Cannon aquifer. Accuracy of the E&E and CSX surveys for top of casing elevation should be verified. In addition, all measurements should be closely evaluated since the Bigby Cannon appears to be highly solutioned.

Cross section A-A" reflects a west to east section from CSX well BH-10 to DRE borehole B-5 which is on the eastern portion of the SADD Site. According to the cross section, the low permeability clay above which the perched water zone is encountered is dipping to the west. The top of the clay layer is encountered 15 feet lower in elevation in BH-10 than in DRE BH-5 with an approximate gradient of 0.01. This indicates that migration pathways of free phase product on the perched water table is to the west, toward the CSX Yard, from the SADD Site.

I recommended in my January 5 ,1993 letter to you that an area wide dye tracing study be conducted for the CSX Yard, Sadd Site and other potential contaminant source areas. Highly contaminated soils on the SADD Site should be removed and treated or properly disposed. If I can be of further assistance please contact me at (513) 569-7537.

Sincerely,

Greg Powell
Environmental Response Team